

Allen (Chas W.)

Syphilis of the Epididymis.

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DURING my term of service at the City Hospital, just drawing to a close, it has been my fortune to treat several men whose histories are not without interest, and in relating them in connection with some previous observations, I will take occasion to speak of those conditions of the epididymis in syphilitics, which are too commonly passed over with the comprehensive diagnosis "Syphilitic testicle." There are, as is well known, instances in both early and late syphilis, in which the epididymis is alone involved, while the globe of the testis remains free, but too little attention has been paid to them, and they are usually passed over in the text-books with either slight comment or are wholly neglected. I do not wish the not infrequent combination orchi-epididymitis to enter into this discussion, nor will I dwell upon those instances in which both globe and epididymis are coincidentally affected, and the epididymis is simply indurated and enlarged after the testis has softened and regained its normal condition.

In support of my proposition that authors have comparatively little to say about the epididymis as an independent seat of specific involvement, I quote from several different sources the following sentences: "In the later stages of syphilis the epididymis is affected only when the testicle itself is diseased." "The epididymis may suffer with the testicle." "The earlier syphilis attacks the testicle the more liable is the epididymis to suffer." "An isolated affection of the epididymis alone does not occur." "The epididymis is a common seat of tubercular disease, but a very exceptional one for syphilis at so late a date." The more recent special works on syphilis devote more or less space to the subject, but regarding it as among the least discussed questions of syphilis, I have chosen it as one to which a brief consideration may profitably be given. I would, then, propose as a thesis from which such consideration may radiate, that the epididymis is capable of suffering by itself, and not infrequently is affected independent of the testis proper, not only in the early consecutive period of syphilis, but in all stages of the disease and sometimes quite late. This involvement of the epididymis may be of inflammatory nature, with deposit of plastic matter between the tubes, cementing them together into a more or less



firm mass; it may take the form of minute gummous deposits disseminated throughout the parenchyma, but more especially in the globus major, giving an irregular and possibly nodular outline to the touch; it may occur as a diffuse gummous infiltration or hyperplasia, occasioning smooth, plate-like masses which may become veritable tumors in the scrotal sac; or a condition of sclerosis may result, the epididymis becoming firm and fibrous in much the same way that the tongue suffers in sclerous glossitis after neglected gummous infiltration.

In what is commonly designated syphilitic testicle, the epididymis is co-affected in perhaps one-third of the cases, and the possibility of the latter organ remaining enlarged after a mild grade of orchitis which has disappeared is mentioned again simply to indicate a source of possible error in diagnosis.

If we approach the question from the analogical side we are at once strengthened in the belief not only that syphilis of the epididymis may exist as an independent thing, but that in point of fact it should be a not infrequent manifestation of the syphilitic state. It is more or less generally known that the epididymis may alone become affected in quite a number of diseases capable of infecting in succession or coincidentally various portions of the economy. This we find to be the case at times in mumps, typhus abdominalis, scarlatina, variola, amygdalitis, and some forms of pyogenic microbe poisoning, to say nothing of the various acute and chronic forms of urethral epididymitis of which that caused by blennorrhagic infection takes the very advanced lead. Furthermore, we have accounts, from inter-tropical countries more especially, of forms of malarial poison which expend their force upon the epididymis. Coming back to the poison of syphilis, and observing its effects as modified in the hereditary form, we find as a rare condition an interstitial epididymitis in young children without sign of disease in the globe. While associated with orchitis it is quite common. When the epididymis is alone affected the enlargement is apt to be double-sided, and this we will see to be the case very often in acquired lues. There seems then to be no valid reason for a theoretical exclusion of the epididymis from occasional attack by itself, and I believe the reason it has not more often been observed and recorded is because of the painless nature of the condition which makes it easy to escape observation; the patient often making no complaint, the physician does not have his attention especially directed to it unless there is much enlargement. The early syphilitic epididymitis, whose first description is usually ascribed to Dron, but which Engelstedt seems to have written about two years earlier, in 1861, had almost escaped recorded observation up to this comparatively recent date. Since then little has been added to the literature bearing upon it if we except the brief writings of Szadek.

The term "epididymitis" is applicable here because the process is

of inflammatory nature, and still so little pain is occasioned by it that oftentimes no complaint is made. The limits of time for the appearance of this epididymitis have been placed within the third and thirtieth months succeeding the chancre. While I have seen several instances which fell within this period, I feel certain that the identical condition may develop at a much more remote date from the infection.

The following instances of double epididymitis disappearing promptly under anti-syphilitic treatment impressed me as belonging to this variety, though eight and ten years respectively had elapsed since the infecting sore.

CASE I.—T. J. was admitted to City Hospital on December 29, 1891, with the epididymis enlarged upon both sides, the left less indurated than the right, the testes being soft and normal. Patient had contracted syphilis eight years before. No gonorrhœa, no history of phthisis. When I went on duty, January 1st, I found the epididymis on both sides enlarged, slightly tender, and the cord slightly indurated. The globes of the testes were normal to the touch and to patient's sensation. There were no other evidences of syphilis present. Iodide of potassium was given in increasing dose to point of tolerance, patient remaining in bed.

On January 22d patient was discharged cured. The history of this case, as it appears on the hospital book, is, I regret to say, somewhat meagre. It does not necessarily follow that an epididymitis existing in a patient who gives no history of gonorrhœa or other urethral disease, but has a more or less distinct history of syphilitic infection, is for that reason surely specific. But in the following cases the diagnosis of syphilitic epididymitis was apparently confirmed by the prompt and marked improvement under the iodide of potassium and the local use of mercurial ointment.

CASE II.—J. W., aged thirty-one years, was admitted December 11, 1891. There is a history of syphilis acquired ten years ago, and patient has a syphilitic eruption now upon the skin. There is a history of only one attack of gonorrhœa eight years ago; no gleet. One year ago both testicles swelled up, patient says, and remained so for six weeks. This swelling never seemed to wholly disappear, and has increased off and on, especially after coitus. The present enlargement began three months ago, and has been entirely painless, but produces a sensation of dragging. Examination showed the swelling to be located in the epididymis of both sides, which were elongated and indurated, but not tender. Treatment by increasing doses of iodide of potassium and unguentum hydrargyri over the scrotum succeeded so well that on January 22d patient was discharged at his own request, although a slight amount of enlargement still remained.

Now it is in just such cases as the above that an enlargement of the epididymis may persist for years, and, in the absence of other syphilitic manifestations or history of infection, have its real nature ignored until, possibly as a safeguard before removal of the organ for supposed malignant disease or tuberculosis, a course of the iodides is tried, when, behold! the whole tumor melts away and a brilliant operation is lost.

A slight improvement under the iodides must not, however, have too much weight given to it, for I am convinced that in tuberculosis of the epididymis, as well as in some joint and skin affections, a certain temporary improvement may result from such a course of treatment. Where fibrous changes have taken place we cannot hope for a return to normal form and size; and when pressure has been exerted, surrounding, and perhaps parenchymatous, fibrinous deposits may result; but, aside from such changes, the iodides should effect a perfect cure.

CASE III.—M. E., aged fifty years, a strong, healthy-looking man, was admitted January 14, 1893. Two years ago I had performed a perineal urethrotomy upon him for the relief of a very tight stricture in the deep urethra, which resulted in prompt and complete cure, since which time he had remained well and free from any urethral discharge or symptoms. Patient had had syphilis ten years ago. About two months before coming into the hospital and a week after a slight injury to the right testicle, caused by climbing over a partition between two rooms (the patient assuring me there was no woman on the other side), a swelling was noticed which was tender and painful, necessitating rest in bed for a few days. Examination revealed a scrotal tumor twice the normal size, which was found to be due to enlargement of the epididymis alone, the globus minor being bound down to the connective tissue and skin of the scrotum. The skin over this indurated mass, which showed very little tenderness, gradually became violaceous and finally broke down, discharging a thin watery pus from a small opening, which remained for several weeks as a discharging fistula. The enlargement of the epididymis was found so irregular and nodular, as the scrotal swelling subsided, and was attended with so little discomfort, and entire absence of pain, that tuberculosis of the organ suggested itself at once to the mind, and the subsequent fistulous formation only tended to strengthen this view. However, from the history of the case, it was thought at least possible that it might be an instance of specific epididymitis, the injury received acting simply as an incentive to the development of this local manifestation of the constitutional disease. Proto-iodide of mercury was therefore prescribed from the start; but, as mouth symptoms soon appeared, the iodide of potassium was substituted in gradually increasing dose until over a drachm was being given three times daily. This medication appeared beyond doubt to act in causing a speedy cessation of the softening process in the scrotal infiltration and gradual decrease in the discharge as well as in the size of the enlargement of the epididymis. After a time there developed an iodide eruption over the extremities, which took the form of an erythema nodosum, with lesions varying in size from a quarter piece to that of a silver dollar. The iodide was consequently decreased, given in milk, and belladonna ordered. In this way a moderate dosage was maintained until late in March, when the dose was but 30 grains daily. The improvement had been rapid and marked. Now daily hot sitz baths, followed by massage of the epididymis and tissues to which it was connected, were begun and continued until the patient was discharged as cured on April 2d. The fistula had been closed for some time, the epididymis (which showed no longer any infiltration) had regained almost its normal size and contour (the scrotal skin had a healthy appearance), and

there only remained a cord-like band extending from the region of the tail of the epididymis into the subcutaneous connective tissue.

In my experience trauma alone occasions no such picture, and in tuberculosis iodide brings about no such radical restoration. The case illustrates that class which resembles tuberculosis, but is not to be confounded with that other pseudo-tuberculosis which follows chronic epididymitis, due to urethral causes. A patient presented by me a year ago at the Academy well illustrated the latter form. Here a cure was effected, mainly by time alone, after the accompanying hydrocele was cured by carbolic injection.

CASE IV.—M. D., an Italian, aged forty years, was admitted January 3, 1893. There was a history of syphilis and secondary manifestations. Some months ago the patient had a hydrocele upon the left side, which was operated upon. Shortly afterward the right side became enlarged, and the patient, making his own diagnosis of the same condition, undertook to be his own doctor, and attempted to make an opening with a pin to let out the water. The operation was not a success, so he applied for treatment. Examination showed the right epididymis greatly enlarged, causing a firm, hard, painless tumor, with no fluid in the tunica vaginalis. Patient was put to bed, with scrotum suspended, and over it mercurial ointment was kept constantly applied, while iodide of potassium was given in increasing doses. On January 12th patient was discharged, greatly improved, and the diagnosis of syphilis of the epididymis seemed to be confirmed by the rapid disappearance of the enlargement under specific treatment.

CASE V.—F. Q., aged forty years, came into the hospital on February 7th, expecting to have his left testicle removed. He had been told by his physician in town that he would have to undergo an operation. My house surgeon said to me, as the dressings were removed at my first visit: "I suppose there is only one thing to do in this case?" He had already proposed castration, and the patient had consented in case I said it was necessary. The case was one of gumma, involving the scrotum and deeper parts in an extensive slough, and I mention the foregoing circumstances to give an idea of the destructive process which had already taken place, and of the appearances presented by the tumor, which threatened still greater damage.

The history was one of syphilis acquired nine years before, which had been treated for a short time only, and principally with iodide of potassium, for the most part self-prescribed. There had been no active signs of the disease for six or seven years. One year ago the left testicle began to swell, but the swelling was painless, and, as it gave no trouble, nothing was done for it until one month ago, "when the lower portion of the bag seemed to grow fast, and finally turned into a discharging sore." He then went under treatment, but the increase in size of the swelling and extension of the ulceration, he says, led the physician to advise hospital care, as he thought the growth would have to be removed. Examination of the scrotal contents showed the tail of the epididymis enormously enlarged, firm, and distinctly bound down through the connective tissue with the deep sloughing ulcer of decided gummy appearance. The head and body of the organ formed a cartilage-like plate of

thickened tissue over two inches in diameter, distinctly separated from the testis, which latter appeared soft and normal to the touch. The adherent mass of slowly suppurating tissue which formed the floor of the ulcer was scraped out with Volkmann's spoon and packed with bichloride gauze. Iodide of potassium was given in daily dose of forty-five grains, gradually increased, so that by February 22d three drachms were being consumed. By March 3d the ulcer had healed under this treatment, combined with local mercurial inunction over more than half its extent, while the epididymis in all parts was decidedly smaller, about a quarter of its original size, but still of cartilaginous hardness.

March 16. The attachments of the external to the deeper parts is much less firm, and the external mass cannot be separated from the enlarged and hard tail of the epididymis. The decrease in the size of the globus minor has been more rapid than in the globus major.

24th. Ulcer about healed, and surrounding infiltration hardness much diminished. Ordered iodide, which has been given for some days in dose of three hundred grains daily, gradually diminished on account of slight iodide eruption on the face. Daily hot sitz bath, followed by the form of massage known as petrissage, or combined kneading and pressure of the organ, with the view of encouraging lymphatic absorption. This was done for twenty minutes, morning and evening, with the result of hastening the retrograde process.

April 14. Testis soft, globus major still appears as firm, smooth tumor, one-sixth the size on admission; ulcer healed. Patient discharged, but advised to continue iodide till all infiltration disappeared.

CASE VI.—H. N., aged thirty-four years, came under my observation on March 1st. He had a history of syphilis, acquired five years ago, and was only treated for three weeks. No gonorrhœa for six or seven years. Patient states that the right testicle swelled up after a cold, contracted a month ago. Had never before had such a swelling, and there was no urethral trouble and no injury. There was no pain attending the enlargement till four days before he came under treatment, when pain was experienced in the groin and back.

Examination showed the epididymis, and especially the globus major, to be enlarged, smooth, hard, but not tender to pressure. The tail is thickened, but the body is not much enlarged. The globe of the testicle appeared soft and but little, if at all, larger than its fellow.

Treatment by local inunction and iodide internally (gr. x), gradually increasing the dose.

March 24. Now twenty grains of iodide three times daily. Epididymis smaller, but still hard and enlarged in all parts. Testicle appears a trifle larger than at first, though soft to the touch. Whole tumor mass much decreased.

Ordered twice daily hot sitz bath and petrissage to whole scrotal contents on this side.

April 7. Remarkable decrease in size of epididymis since latter treatment was added to the iodide, now given in drachm doses.

Patient was discharged for insubordination about April 20th, at which date there were scarcely any remains of the infiltration.

CASE VII.—H. B., aged forty-three years; first seen February 25. Had gonorrhœa for the last time ten years ago, and has had no urethral discharge or disease since. Contracted syphilis ten years ago. Six

weeks ago the left testicle began to enlarge gradually, and at first painlessly, but subsequently pain was felt after walking much.

On examination the testis was found large, smooth, firm, non-sensitive to pressure, the epididymis distinctly but not greatly enlarged.

Treatment.—Iodide in increasing dose.

March 10. Patient now taking two drachms daily, and has an iodide eruption over face and backs of hands, resembling the wheals of urticaria. Ordered drug decreased and given with belladonna.

24th. Now at forty-grain dose again, and eruption has reappeared. Ordered iodide decreased rapidly.

April 1. Epididymis now plainly enlarged, while testicle is soft and much decreased in size.

15th. Discharged. Epididymis greatly reduced in size.

This case is included merely to illustrate the class to which an orchitis may, as it disappears, leave behind a still enlarged epididymis, which, in the absence of reliable history, could be mistaken as the primary and sole affection.

A somewhat similar case of orchi-epididymitis is the following :

CASE VIII.—A. J., aged 28 years; was admitted September 22, 1891. He had had a chancre seven years before, followed by secondaries, and on admission showed signs of syphilis. Eleven weeks before, the left testicle had become swollen, and when I first saw him, on January 1, 1892, the epididymis was now alone affected, being enlarged and tender on manipulation. He was discharged cured March 7, 1892.

The diagnosis of syphilis of the epididymis must be made from a variety of other conditions, but while urethral epididymitis of course leads in frequency, we must bear in mind that parenchymatous enlargement may take place from a variety of systemic or general affections already enumerated, while those forms which have occasionally been attributed to rheumatism or gout are probably to be referred more accurately to urethral or syphilitic causes if carefully analyzed. In acute blennorrhagic epididymitis we have the discharge and the acute onset, with pain, to render the diagnosis clear, while in the chronic urethral form the tail is the part of the epididymis most frequently left hard, and there is a history of urethritis usually not very remote. In the pseudo-tubercular variety, with nodular indurations often marked by accompanying hydrocele, the diagnosis is more difficult, but concomitant evidences of syphilis will assist. Here, too, the diagnosis must be made from tuberculosis, and coincident evidences of tuberculous disease in other organs must be looked for or excluded. If patient is syphilitic, and has recently had a gonorrhœa, the difficulties are increased. The pseudo-tuberculous epididymitis is peculiarly indolent and not influenced by iodides, and some cases will have to undergo a period of observation before a positive opinion can be vouchsafed.

When fibrous changes have taken place after a chronic gonorrhœal

inflammation, much care must be exercised to avoid faulty interpretation of the condition.

As a rule, the globus major is alone or primarily affected in syphilis, but as this is true also of tubercular change, it has no great diagnostic value as between these two states. Diagnosis must also be made from cancer, sarcoma, fibrous tumor, cyst, etc.

In cancer there is inguinal adenopathy and possibly cachexia.

The early diffuse syphilis of the epididymis, or syphilitic epididymitis proper, is usually confined to the globus major, though cases are recorded in which the tail has been alone inflamed, and often the body suffers too. The enlargement may be either rounded or irregularly square or angular, and not often much larger than an American chestnut. There appears to be a decided tendency for both epididymes to suffer coincidentally or one after the other. If other diagnostic features are not sufficient, the fact that the infiltration entirely and quite promptly disappears under anti-syphilitic treatment makes its nature clear.

Sequelæ are usually absent, while after gonorrhœal epididymitis fibrinous remains are apt to show themselves for a long time, especially about the tail.

The gummy tumor of the epididymis may occur quite early or very late, as seen in instances cited. If small gummy nodules are scattered through the organ, especially the globus major, there may be but little enlargement, while if a diffuse gummy mass has formed, the tumor may surpass the normal size of the whole testicle several times over. Such gummata may, in being absorbed, leave the organ atrophied. Here the diagnosis is more especially to be made from orchitis gummosa, and from gumma involving both testicle and epididymis, while those showing great plate-like masses, as in Case V., may simulate vaginalitis or periorchitis prolifera, but in the latter the thickened mass would not melt away under iodides, as they did in this case. In orchitis the scrotal skin is here stretched tense, and the veins are more distended.

CASE IX.—Mr. F., a young man aged twenty-four years, came to my office in October, 1890. He stated that the left testicle had given him trouble for five years. He had first had an abscess in the left groin, which, he said, had "dropped down," forming an abscess in the left testicle, which had ruptured through the scrotum, and shortly after had a perineal abscess. The testicle trouble had left a fistula, which was still discharging at the time I first saw him. There was a history of gonorrhœa four or five years ago, which patient stated had begun after the inguinal and scrotal abscesses, which he thought were in no way connected with urethral trouble. He had never had any previous venereal disease, but gonorrhœa once since, and never any evidences of syphilis, which he says was excluded by the physician who then treated him, as was also tuberculosis, or, at least, bacilli were sought for and not found. The condition, he said, was pronounced simple inflammatory.

Five months ago the right testicle began to give trouble, and a small

"lump" formed in the lower part, just like that which had appeared five years before on the left side preceding the abscess. This lump had given no pain until three days before I saw him, when an acute swelling began, attended with adhesion between the scrotal skin and parts covered by it, and a puckering-in of the tissues.

Examination showed the left epididymis enlarged, firm, nodular, painless to pressure, and from the region of the tail to the most dependent part of the scrotum was a discharging fistula, about which the tissues were all bound down by firm bands, and a second opened on the external surface of the scrotum. The testicle was small, as though atrophic and sclerosed.

The right epididymis appeared about three times its normal size, was thickened, knotty, and irregular. The tunica vaginalis was found filled with fluid which, according to the history, had accumulated rapidly and for the first time. This fluid, amounting to about eight ounces, I drew off without injecting the sac. Ordered iodide of potassium, and mercury and belladonna ointment. I did not see the patient again for nearly a month. In the meantime there had been no further pain, but the hydrocele had returned to about one-third its original size. The iodide in ten-grain dose had produced salivation and pain in the jaw, so it was dropped to one grain, and gradually increased. The general health had improved, and the left epididymis was surely in a better condition. Ten days later I drew off five ounces of fluid. Treatment continued. In less than a month the upper fistula on the left side had closed, and the enlargement of the epididymis had apparently decreased in size, but became more dense. On the right side hydrocele fluid was reaccumulating.

January 6, 1891. In attempting to draw off fluid, the tumor of epididymis was accidentally punctured, a little bloody fluid was drawn off, patient fainted, and operation was postponed. This I will here state, was the last attempt to treat the hydrocele surgically, and although the fluid was only removed in very small part at this time the remainder was absorbed, and to the present time has not returned. Patient was now put upon the tannate of mercury, three grains daily.

20th. Left testicle has seemed to become still more atrophic. The second (lower) fistula has ceased discharging; the upper remains closed. The patient says there has been wonderful improvement on both sides.

Upon the right side the skin has ruptured where adhesions were present when patient came under treatment, three months ago, and a fistulous opening is now discharging yellow pus.

March 12. Right epididymis decidedly smaller; fistula discharging.

October 22. Patient says he took about two ounces of iodide during the summer. Ordered tannate pills gr. $\frac{1}{2}$, three daily.

November 29. Gradual improvement. No fluid in sac; no soreness, and sense of weight gone. Whole enlargement much decreased; testicle soft and small. Whole epididymis larger than normal, and globus major quite hard. Fistula on both sides discharging slightly. Tannate continued.

I did not see the patient after this for a year, and his treatment was neglected.

November 13, 1892. Patient states that fistulæ healed, and there was no discharge for a long time. The scrotum contracted well up about the

testicles, rendering a suspensory no longer useful, and patient considered himself about well.

In December, 1892, the patient contracted gonorrhœa, and there was a swelling upon the right side, and the fistula opened again, and shortly after a new fistula formed high up on the left side. Ordered saturated solution of iodide, gradually run up.

February 1, 1893. Examination showed epididymis on both sides still somewhat firm, irregular, and slightly enlarged. The most recent fistula was discharging a small amount of watery fluid. Patient considered himself in a satisfactory condition, and has not been seen since. The iodide was ordered continued.

Now, in the above case, in spite of much interrupted treatment, there has been a very great improvement—so great, in fact, as to encourage a hope of complete cure if treatment could be faithfully carried out. The case looked at first, and continued to look, so much like tuberculosis, that in spite of the benefit from the anti-syphilitic remedies, I was never willing to say that it was specific. Indeed, I believe that in spite of the small amount of iodides and mercury consumed, we have reason to expect more prompt and lasting results. There is one thing, however, which I firmly believe, and that is, that the man is better off, mentally and physically, having his manly powers preserved in a state of functional activity, than if his testicles had one or both been extirpated, even if they had been found when slit open upon the operating-table to be filled with tubercle.

Now, as concerns the question of abscess and fistulous formation in gummous infiltration, they may occur, as we have seen from Cases III. and V., in both of which gummy abscesses of the scrotum ruptured externally, and in one of which a fistulous opening remained, and discharged for some time. Affections of the albuginea have been considered more likely to result in this way from their superficial situation, but in these cases there seemed no doubt that the process started in the epididymis. Gumma of the cellular tissues of the scrotum alone would be freely movable over the tail of the epididymis, which could be distinctly separated from it, which was here not the case. Ricord's view, that when suppuration of the scrotal tissues took place it was always due to changes in the cellular tissue, rather than in the testicular parts, is clearly faulty, and Rollet plainly showed, in 1861, that gumma of the testis could soften and discharge externally, and I have myself seen a gummy testis discharge itself externally with the formation of a large fungus.

That fistulæ may disappear under iodides is shown in two instances here recorded. The condition is at best rare in which a fistulous tract reaches the testicle, but instances in which they connect the epididymis with the outer world are still more rare. Cases in which persistent fistulous openings have existed have been too often subjected to castration, more especially in former times. Thus, West records two

instances, one seven and the other four years after the chancre in which this operation was done, and on examination in one case disseminated gummata were found in both epididymis and testis, and in the other a fibrinous deposit, causing adhesion to the skin and breaking down of the lowly organized product. This was in 1859. To-day, I have no doubt, these testicles would have been saved by the iodides.

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